THE SHIFTING OF TAXES ON SALES OF LAND AND CAPITAL GOODS AND ON LOANS

I

A tax on commodities is wholly or partly shifted upon consumers according as the taxed goods are produced under conditions of constant or increasing cost, respectively, and according as the demand for these goods—if they are produced under conditions of increasing cost—is absolutely inelastic, or is more or less elastic. If the conditions of production of a taxed commodity are those of constant cost, and if the industry is a competitive one, all of those in the business (with their land and capital) would leave and go into some other line or lines of production rather than bear any special tax.[1] If the demand for a taxed article is absolutely elastic, all the consumers will refuse to buy rather than pay an appreciably higher price. Usually both demand and supply are somewhat elastic. Some of the persons engaged in producing the taxed article are unwilling to continue so doing unless they can shift substantially the entire tax; but others may be willing to continue producing though they can shift but a part or none. Likewise, some buyers will not purchase a taxed good, or will purchase appreciably less of it, if the tax is shifted to them in any noticeable degree; but others will purchase though they have to pay some or all of the tax in the form of a higher price. A tax on commodities, therefore, or on a given commodity, while it is usually borne chiefly by consumers, may frequently be borne in part by producers of the goods or good taxed.

The case of taxes on sales of land or capital goods or on mortgages or loans is analogous. But while taxes on commodities fall upon consumers as such, regardless of the various sources of their incomes, and so rest on interest, wages, and rent,[2] we may find that

[1] Obviously those in the industry, along with others, will, as consumers, help pay this or other taxes levied on commodities.

[2] If, there being no more money or bank credit expended, prices of taxed goods rise, other prices tend to fall. If all commodities are taxed, and their prices rise,

taxes on sales of land or capital goods or on loans have a somewhat different ultimate incidence.

Let us begin by asking what would be the incidence of an appreciable tax on sales of land, e.g., 1 per cent of the value of each sale. We may assume that only some buyers and some sellers are marginal, that the remainder of buyers would pay a higher price rather than not buy, and that the remainder of the sellers would accept a lower net price rather than not sell. To illustrate the likely situation, on a small scale and in a simple way, we may suppose a number of pieces of land of equally good quality and location. Five of these tracts are owned by A, B, C, D, and E, respectively, each of whom would sell for a price of $10,000. Of the potential buyers, five, V, W, X, Y, and Z, would purchase at that price. The price of $10,000 is, then, a price at which all the land of the given description can be sold which the owners are willing to sell at that price. It is the price which "equalizes demand and supply," in the absence of any tax on the sales.

But what will be the conditions of equalization of demand and supply if sales of land are obstructed by a 1 per cent tax? Since, by hypothesis, some of the buyers are marginal, the price of what land is sold can rise by the entire amount of the tax only if several of the sellers are also marginal, i.e., would rather keep their land than to receive for it, after subtracting the tax, less than $10,000 for each tract or plot. If all of the would-be purchasers are marginal, any rise of price whatsoever must result in no sales; and if all of the would-be sellers are marginal, their inability to charge any higher price because of the tax must result in no sales. But if, of the five owners of land who, in the absence of a tax, would

money incomes tend to fall. Where an extra price has to be paid for an article, because of a tax, the tax money paid tends to be prevented from acting so immediately to make demand for other goods as it might were the tax not required. The present writer discussed this point partially in an article in the *Journal of Political Economy* for June, 1920, entitled "Some Frequently Neglected Factors in the Incidence of Taxation." Emphasis was then placed on the fact that, in the case of indirect taxation, the tax money goes through several hands on its way from consumers to government. But even if consumers, when buying taxed goods, paid the tax directly to government, the money so paid might, for a very short time, be prevented from acting so as to make demand for other goods.

sell for \$10,000, three would rather take (say) \$9,940 net than not to sell; and if, of the five prospective buyers, three would rather pay \$10,040 than not to buy, then three sales will take place in spite of the tax, and the tax will be borne \$40 by each purchaser and \$60 by each seller.[1] Demand and supply will be equalized, assuming a tax of \$100 on each sale, with a net sale price of \$9,940 and a gross sale price of \$10,040. The tax is then divided between buyer and seller.

So far, the argument is perhaps obvious and, possibly, commonplace. But further analysis is desirable. From what sort of economic income is the tax paid—or does it come from several sources? Is it drawn from rent or from interest or from wages? Let us consider, first, whatever part of such a tax is paid by the purchaser. Before we inquire whether, of the part paid by the purchaser, any portion is drawn from economic rent, we may advantageously state our conception of rent. The rent of such a piece of land as we have in contemplation is to be reckoned as measured and determined by the difference between the annual product of industry and what that product would be if this specific piece of land were non-existent, and if, therefore, the labor and capital employed upon it had instead to be used on the margin (extensive or intensive) of production. Those business enterprisers to whom it makes the maximum difference whether or not they secure the use of supramarginal land of a given description, will ordinarily offer enough for it so as to outbid enterprisers to whom its relative advantages are less. The rental value of land of this description is (assuming perfect competition) what that tenant would pay who is a marginal tenant, i.e., who is just induced to hire a piece of this land, and without whom the supply of such land, offered at the given rent, would exceed the demand. Tenants of other plots of land of this description, who are supramarginal tenants, may produce absolutely more from the land they hire than does the marginal tenant from his, or they may produce merely more relatively to what they could produce on no-rent

[1] If the tax is reckoned as 1 per cent of the net sale price, it is \$99.40; if 1 per cent of gross sale price, it is \$100.40. It has seemed well enough, in the text, to reckon the tax at \$100 on each sale.

land or more than they could earn as hired employees. But whatever these supramarginal tenants get in excess of the rent they pay (and in excess of interest on the capital they use) may fairly be reckoned as their wages or remuneration for effort, or, as it is sometimes called when the effort is self-directed, their profits.[1]

A tax on land sales may conceivably have an indirect effect on rent although, in the respect we are about to discuss, it is unlikely to. Thus, such a tax may make some would-be purchasers prefer to be tenants and so may tend to increase the demand for land to rent. But it seems about equally likely that the tax would make some intending sellers prefer to lease their land to tenants, and would so increase the supply of land to be rented.

A tax on sales of land may, however, be drawn directly from rent. Suppose, for example, that the supramarginal buyer, who can rather afford to pay a part of the tax than not to buy, is interested in this land only as a prospective recipient of rent. He does not intend to do any work on it or to improve it in any way, but merely to lease it—perhaps for fifty years—with suitable guaranty of rent payment. He purchases the land, perhaps because a change of residence removes him so far from property he formerly owned as to make him fear loss through lack of oversight. He therefore sells his former property, but from the rent which his new property yields, a part must be subtracted to reimburse him for the tax. In such a case the tax is drawn, in the last analysis, from rent.

But the tax may in other circumstances be drawn from labor income. Consider the case of a supramarginal buyer, who, as a tenant, could earn for himself $1,000 a year in excess of rent and interest, and who could invest his funds in bonds or mortgages so as to get as large a per cent return as the economic rent of the land

[1] If there is a larger number of persons to whom supramarginal land of the given description is relatively much better than the rest, then the person who was a marginal tenant of this land falls below the margin since others outbid him. The new marginal tenant is one who can afford to pay more for it. Under these circumstances the difference between having and not having in the community any given tract of such land is greater than before. Its marginal product is greater. But the marginal product of the tenant who is now just induced to hire such land is less than if there were fewer to bid against him. Worth-while use of this land does not depend so exclusively upon him and a few like him.

would be. Such a buyer, however, might be one who, with the freedom and power of initiative of an owner of the land, could get by using it, not only what it would rent for,[1] but $1,100 a year besides. In other words, he might be a person whose labor income as such would be $100 a year larger if he could direct his own labor entirely and use his own judgment in managing the land than if he had to work as a tenant or an employee. Such a person could better afford to pay a part or all of the tax than not to become an owner. The tax would be, in ultimate effect, a subtraction from his labor income. He would be able to pay the tax because his labor income as an owner of this land so far exceeds his labor income in any other option. He can pay it because he has a profits or wages surplus above what would be necessary to make him follow the occupation of an independent entrepreneur or enterpriser. In the absence of the tax he would simply enjoy this surplus labor income. But since it is a larger labor income than he can secure in his best alternative, and since he has available funds to invest, he is willing to pay a higher price for his land in order that he may enjoy this surplus. He is willing, if necessary, to purchase the privilege of earning such a surplus. And in that sense the tax, or the part of it which he pays, may be regarded as a capital investment looking toward a larger future income than the purchaser could otherwise get from his labor.

In passing it may be added that, when land is bought by a consumer as such, e.g., for a home, the supramarginal buyer pays his part of the tax out of his "consumer's surplus." Some would rather rent than pay any tax. They are marginal. Others are willing to pay a tax for the consumer's satisfaction of ownership.

Consider, now, the case of the sellers. The marginal seller will pay no tax. Rather than sell for less than $10,000 (to use the figure of our example) he perhaps will prefer to operate the land himself or to lease it and enjoy the rent. But another potential seller may be differently situated. Perhaps he lives so far from the land he owns that he would feel safer to invest in other property, and would so prefer to pay part or all of the tax rather than not sell. Part of the interest or rent, or both, derived from his new

[1] Plus a reasonable interest on the cost of any improvements.

investment may then be regarded as drawn upon to pay his loss —though he may simply regard himself as permanently that much poorer. Still another potential seller may prefer to sell in order that he may work as an employee and relieve himself of supervisory functions for which he is relatively unfitted and which he cannot satisfactorily delegate. Such a seller in effect makes good his tax out of the larger labor income which he is thereafter enabled to earn.

That a tax on sales of land would prevent some exchanges and keep some persons from performing the functions for which they are best fitted is probably true. Efficiency of production might so be decreased. But our present interest is rather with the problem whence comes, in the last analysis, the tax money.

It is perhaps hardly necessary to remark that similar conclusions would apply in the case of a tax on the sale or transference of any capital equipment.

II

But perhaps a more interesting problem—and one which may be discussed in a very similar way—is the problem of the taxation of mortgages and of loans in general, and the shifting of such taxation. Economists in the field of taxation are wont to state that a tax on mortgages is shifted upon borrowers, although sometimes they qualify the statement slightly, admitting that there may be cases where not quite all of the tax is so shifted. But the usual analysis is incomplete, and, therefore, unsatisfactory. The assumption is generally made that most lenders are marginal and will refuse to lend unless they can add practically the entire tax to the interest charged the borrower. This may be ordinarily true in jurisdictions where evasion of mortgage taxation is prevented, because practically every potential lender has an alternative almost, if not quite, as good in his ability to invest in bonds or to invest in mortgages on property in another jurisdiction or state. If, and where, the potential lenders, however, through unfamiliarity with their other possible options, or through prejudice, are excluded from taking advantage of such options, these lenders are likely to bear part of such a tax, for most of them will prefer, perhaps, to receive somewhat lower net interest than not to lend.

We can perhaps get a clearer glimpse of the theory of the subject if we suppose the alternatives of lending through some other method—such as bond-buying—to be shut off by making the tax general on all loans. Let us suppose, then, a federal tax of (say) 2 per cent on loans of every kind, so that the lender may not avoid the tax by making a different kind of loan, or a loan in a different jurisdiction, and let us suppose that information or stoppage at source is so effective as to prevent evasion. Would the whole of such a tax be shifted to borrowers?

A proper solution of the problem requires a consideration of the various alternatives of borrowers and lenders. Undoubtedly some borrowers would be marginal. Such would refuse to borrow should the charge on loans rise by one iota. Some corporations which had intended to borrow by selling their bonds would instead sell stock. Some individuals who otherwise would have sought to get title to their homes, by purchasing on mortgage, would now prefer to remain tenants. Some business men who might have borrowed, and so purchased the premises they use, would instead rent their premises. Some persons who, in the absence of the tax, would have purchased farms on borrowed money, giving mortgage security, would instead become tenants, hired managers, or laborers.

On the other hand, some borrowers are supramarginal. The prospective home-owner who would purchase rather than rent, even if a tax on mortgages adds to his interest rate, the business man to whom ownership of the premises he occupies and the resulting freedom to make what changes he desires without let or hindrance means much in larger annual income, the farm tenant to whom the difference between being an owner and being a tenant is likewise significant enough in prospective larger income to make borrowing at a higher rate still preferable to continued tenancy—these are supramarginal borrowers. If all borrowers were thus supramarginal, and if some of the lenders were marginal, the borrowers would clearly pay much or all of the tax.

But some of the lenders are also likely to be supramarginal. For if, as on our present hypothesis, all loans are taxed, lenders cannot avoid the tax by merely changing the form of the loan or by loaning to a corporation instead of to an individual. Those

owners of funds who do not wish to lend must either invest their funds in corporation stock, with the greater risk of such investment, or must invest still more directly under their own entrepreneurship or must use up their wealth in current gratifications. But some of them will be persons who would readily take less interest than before—perhaps 2 per cent less—in preference to investing where the risk is greater. Some, also, may prefer to take lower interest and be free of the necessity of personally directing their investments than to have to work as business enterprisers or entrepreneurs. And some lenders can employ their capital so inefficiently themselves that they can better afford to lend it at a considerably lower net interest than before, perhaps then engaging in work under another's superintendence, than themselves to direct the use of their own capital. Under such circumstances it is reasonable to suppose that part of a tax on loans might fall upon lenders. If to add the entire tax to the interest borne by borrowers would cause some borrowers—the marginal ones—not to borrow, and if many of the lenders would rather lend for less than not to lend, then a part of the burden of the tax is likely to fall upon lenders.

On what sorts of income does such a tax on loans finally rest? So far as borrowers bear it, it will be likely to come out of their surplus labor incomes above what they would earn as tenants or employees. The supramarginal borrower is willing to pay a part of the tax just because he can produce more and get a larger labor income as a self-directing titular owner than otherwise. Supramarginal borrowers, at least, who thus borrow in spite of the tax, will not be likely because of it to do less work or produce fewer goods. And marginal borrowers, though the tax prevents them from borrowing, will not therefore be prevented from working. We need not conclude, therefore, that consumers, as such, will have to pay the tax in higher prices of goods.

Other borrowers—those, for example, who borrow for the pleasure of having title to their homes—pay their part of the tax out of consumers' surplus. In the case of the ordinary tax on mortgages, when loans and investments of other sorts are not reached, the lenders' options are so numerous and good that they will

usually pay next to nothing of the tax; but borrowers who want funds to purchase farms or homes will frequently be unable to borrow the required amounts except on mortgage security, and, therefore, if they are supramarginal, are likely to pay the entire tax.

In the case of a tax on all loans, lenders are likely to pay a part. But out of what incomes or classes of income will they pay it? Can it be said that they will pay it out of interest? Cleaily the net returns these lenders receive on the capital they loan is reduced by the tax. In this case the tax does not come out of wages, and it certainly does not appear to be drawn from rent as such.[1] It comes, definitely, from interest. Whether, in the long run, such a tax may affect saving adversely, decrease the supply of and increase the marginal productivity of capital, and, by so doing, injure other classes, we shall not here inquire. Indeed, it is doubtful whether we could reach on this point, with confidence, any conclusion. Suffice it to say that we have shown the incidence of a tax on loans, so far, to be partly on income from labor (when borne by borrowers who borrow for ownership and production), partly on consumers' surplus (when borne by persons who borrow to get title to their homes), and partly on interest (when borne by lenders).

We have not yet, however, sufficiently discussed the question whether a tax on mortgages or a tax on all loans could be shifted upon consumers. If there are some industries which make a larger proportionate use of loans than others—the others depending on direct investment or on stock sales rather than bond issues—then the tax may tend slightly to divert capital out of the former industries and into the latter (those not making use of loans). This would somewhat increase the prices of some commodities, but it would lower the prices of other commodities. Consumers, as a whole, would not, perhaps, lose on the one hand more than they would gain on the other. But so far as the tax affects all industries equally, it does not tend to drive capital out of any one business into others. Furthermore, persons who are prevented, by the tax,

[1] Though the lender's interest may be paid out of the rent of land which the borrower has purchased with the funds loaned to him.

from becoming owners of property, have still to earn a living and will often produce as tenants, hired managers, or laborers, the same kind or kinds of goods they would produce as owners. If and when this is not the case, and the would-be purchaser of land and capital, being prevented from purchasing, does not produce the kind of goods to the production of which the property is adapted, the would-be seller who might have ceased to produce those goods may instead continue to produce them. A tax on loans or on mortgage loans is distinctly not a tax on commodities, and its incidence is not on consumers as such. It may have evils in preventing property from getting into the hands of persons who can do relatively the best with it. It may thus affect the efficiency and earning power of those who are prevented from buying or selling. But these do not pay the tax since the threat of it prevented their intended transactions. And there can be no shifting of a tax where there is no tax to shift. If labor efficiency is reduced, those who are therefore unable to earn so much suffer in their wages or profits. Neither they nor others suffer as consumers.

III

The taxation of sales of corporate securities is an analogous problem. There are marginal and supramarginal buyers, marginal and supramarginal sellers. The supramarginal buyers would be willing to pay some tax in the form of a higher price for stocks and bonds rather than to adopt the option of not saving, of lending to private persons, or of directly managing their own funds. So far as a supramarginal buyer pays such a tax, he pays it in effect from the income of the investment in excess of that necessary to induce him so to invest his funds. The supramarginal sellers are those who would rather take less for corporate securities they have to sell than to be deprived of the chance to spend or "live out" their capital or than to be unable to lend to private persons or than to be prevented from investing directly under their own direction. So far as they pay this tax it comes out of the surplus labor income which they expect to be able to get if they can superintend their own capital, or—if they intend to spend it in personal consumption—out of the excess of consumers' utility above what is necessary to make them choose that option.

So far we have seen no reason to suggest that such a tax will diminish saving. The buyer who is marginal between investing in corporate securities or using up his savings may be induced to do the latter. But the seller who is marginal between holding his securities and using up his wealth may be induced by the tax to do the former. When, however, we come to consider, not the transfer of long-issued securities from person to person, but the sale of new securities to provide funds for corporate business, there may be significance in a tax which reduces the net per cent return to the potential investor. Conceivably accumulation will be adversely affected, the supply of capital diminished, the marginal productivity of capital increased, and the rate of return on capital raised. Or, if the marginal investor is not marginal between investing in corporate securities and spending for current consumption, but instead is marginal between investing in corporate securities and investing under his own management as an entrepreneur, then such a tax will diminish corporate enterprise, and may so diminish it and substitute private enterprise in its place, even where corporate enterprise somewhat better serves the purpose.

Finally, any considerable tax on sales of corporate securities would of course negative their frequent transfer. A supramarginal buyer, of the sort we have described, might prefer to pay such a tax in order that his money might be invested in corporate securities over a fairly long period. But he could not so well afford to pay even a small part of such a tax if he were likely to need to liquidate his investment—i.e., sell the securities—a day or two after buying them. A tax of 1 per cent on the market value of securities sold might be relatively unimportant to the long-time investor. But if a security were active and sold every day, the taxes on it during a year would be several times its total value. Assuming no market fluctuations, every buyer would have to sell it for less than he paid for it, by the amount of the tax. The seller, as such, might bear a part of the tax and the buyer a part, but the buyer who was also a seller would pay all of the tax. And only a speculative motive would be likely to induce anyone deliberately to put himself into such a position.

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